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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,919	01/08/2002	Brett P. Masters	2001841-0011	5583

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EXAMINER	
DOUGHERTY, THOMAS M	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,919	MASTERS ET AL.	
	Examiner	Art Unit	
	Thomas M. Dougherty	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Erikson (US 4,281,550). Erikson shows (figs. 7 and 8) an electromechanical device (600), comprising a substantially planar ceramic electroactive member (600) having grooves (620) defined on a planar surface of the member (in fig. 7), whereby the grooves (620) are adapted and constructed to reduce transverse strains generated by bending (see fig. 8) such that the member is capable of bending to conform to a curved surface (top surface of 650).

The device (600) is an electromechanical sensor or an actuator.

The grooves (620) are substantially parallel and the member (600) can conform to a cylindrical surface (top surface of 650).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Erikson (US 4,281,550). Given the invention of Erikson as noted above, it is not clear how great the curving radius of the ceramic electroactive member can be. Given that the invention as claimed is structurally met by the Erikson document, this is regarded as a goal of the invention which is not structurally limiting by provided description.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erikson (US 4,281,550) in view of Dias (US 4,992,692). Given the invention of Erikson as noted above, he does not show an embodiment wherein the grooves are substantially concentric and the member can conform to a spherical surface.

Dias shows (fig. 5) an electromechanical device, comprising a substantially planar ceramic electroactive member (36) having grooves (34) defined on a surface of the member (in fig. 7), whereby the grooves (34) are adapted and constructed to reduce transverse strains generated by bending such that the member is capable of being on a curved surface.

Dias' grooves are substantially concentric and the member conforms to a spherical surface.

It is not clear that Dias' grooves are formed on an initially planar surface.

It would have been obvious to one having ordinary skill in the art to form the grooves of Dias in a planar surface electroactive ceramic member, such as is shown in the device of Erikson at the time the Dias invention was made since forming the grooves on a planar component is far easier than the spherical formation of such.

Claim 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junger (US 3,111,595) in view of Dias (US 4,992,692). Junger shows (fig. 13) a substantially planar bimorph electroactive member (95) having slots defined in the member (not numbered), whereby the slots are adapted and constructred to reduce transverse strains generated by bending to multiply an electromechanical bending response of the bimorph member.

The device is an electromechanical sensor or actuator.

The slots are substantially parallel.

It is not specifically stated that his electromechanical member is ceramic. The slots are not concentric.

Dias shows (fig. 5) an electroactive ceramic member (36) with concentric rings (34). It is not a bimorph.

It would have been obvious to one having ordinary skill in the art to employ a ceramic material with concentric rings in the device of Junger, at the time of his invention, in order to achieve the mechanical integrity of Dias's device in the device of Junger.

tmd

April 26, 2004

Thomas M. Dougherty

THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2800